

Waves of finite amplitude...

28776 S/057/61/031/010/009/015  
B109/B102

( $\text{Im } k = 0$ ). From this follows

$$\left. \begin{aligned} H_e &= h_0 e^{-i} \cos(\Phi - \varphi_e), \quad V_e = \frac{h_0}{\sqrt{4\pi\rho}} e^{-i} \cos(\Phi + \Phi_0 - \varphi_e), \\ \Phi &= k \left[ r + \sqrt{1 - \pi\rho k^2 (\nu - \nu_m)^2} \frac{H_0^2}{H_0} \frac{H_0}{\sqrt{4\pi\rho}} t - \int v_0 dt \right], \\ \gamma &= \frac{(\nu + \nu_m) k^2}{2}, \quad \sin \Phi_0 = \frac{\sqrt{\pi\rho} k (\nu - \nu_m)}{H_0}, \end{aligned} \right\} \quad (15)$$

where  $h_0, \varphi_e$  are arbitrary real constants. (15) represents a signal of finite amplitude in a finite conducting fluid, moving at the velocity  $v_0$  along  $H_0$ . In case of  $|H_0| \gg H_*$  (where  $H_* \equiv \sqrt{\pi\rho k^2 (\nu - \nu_m)^2}$ ) the propagation rate of the signal is approximately equal to the velocity in the ideal fluid. The authors thank Ye. F. Tkalich for discussions. Ya. I. Frenkel' (ZhTF, XIV, 97, 1944) is mentioned. There are 24 references: 18 Soviet and 6 non-Soviet. The three most important references to English-language publications read as follows: I. N. Kapur, Appl. Sci. Res., A8, 198, 1959; T. Kakutani, J. Phys. Soc. Jap., 15, 1316, 1960; W. E. Williams, J. Fluid. Mech., 8, 321, 1960.  
SUBMITTED: January 9, 1961

Card 5/5

Waves of finite amplitude...

S/057/61/031/010/009/015  
B109/B102

SUBMITTED: January 9, 1961

Card 6/6

S/179/62/000/002/005/012  
E032/E514

24.6711

AUTHOR: Tkalich, V.S. (Sukhumi)

TITLE: Stationary motions of high-temperature plasma

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye  
tekhnicheskikh nauk. Mekhanika i mashinostroyeniye,  
no.2, 1962, 30-37

TEXT: This paper is concerned with the theoretical aspects of the insulating properties of a "magnetic wall". The first section formulates the equations of motion for a particle in a stationary electromagnetic field. Terms describing the interaction at small distances are neglected. The second section is concerned with a quantitative description of plasma (nonrelativistic) in a self-consistent field. The presence of cyclic coordinates is assumed and the generalized Maxwell distribution function is derived. The analysis is then specialized to the two-parametric and one-parametric stationary cases. In the final section expressions are derived which may be used to estimate the insulating efficiency of a magnetic grid. The paper is

✓c

Card 1/2

Stationary motions of high ...

S/179/62/000/002/005/012  
E032/E514

entirely theoretical, no numerical computations are reported.

ASSOCIATION: Fiziko-tekhnicheskii institut Akademii nauk  
Gruzinskoy SSR  
(Physico-technical Institute, Academy of Sciences,  
Georgian SSR)

SUBMITTED: April 24, 1961

Card 2/2

S/258/62/002/003/001/008  
I006/I208

AUTHOR: Tkalich, V.S. (Sukhumi)

TITLE: The steady state problem of magnetohydrodynamics with two coordinates Chaplign transformation.

PERIODICAL: Inzhenernyy zhurnal. v.2, no.3, 1962, 43-53

TEXT: The steady state problem of magnetohydrodynamics with one cyclic coordinate is considered. A cyclic coordinate is defined as a coordinate upon which pressure, entropy, velocity, magnetic field and Lamé parameters of curvilinear coordinate system are independent. The principal symmetry integrals are deduced. By a transformation analogous to Chaplign's transform, linear equations are derived for the analogs of potential and stream function.

SUBMITTED: February 5, 1961

Card 1/1

S/179/62/000/005/002/012  
E032/E314

AUTHOR: Tkalich, V.S. (Sukhumi)

TITLE: On the stationary problem of magnetic hydromechanics in the two-dimensional case; colliding streams of a conducting liquid

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye, no. 5, 1962, 32 - 38

TEXT: This paper is concerned with the magnetohydromechanics of a non-ideal conducting liquid. The analysis is concerned with the stationary problem in the case where there is only one "quasi-cyclic coordinate". The coordinate ( $x^3$ ) is defined as "quasi-cyclic" if the magnetic field  $\vec{H}$ , the velocity  $\vec{v}$  and the metric tensor  $g_{kl}$  are independent of  $x^3$  and the electric-field potential  $\Phi$  and the total pressure  $p$  are linear functions of it. The analysis begins with the Gromeka-Lamb equations. The conditions for the fact that the  $x^3$  coordinate is quasi-cyclic and the magnetic field and velocity vectors are solenoidal are then substituted into these equations, leading

Card 1/2

S/179/62/000/005/002/012

EO32/E314

On the stationary problem ....

formulae for the field and velocity components in curvilinear form in terms of the generalized current functions. It is then shown that the general partial differential equations for the system include the ideal liquid as a special case. The case where the medium is dissipative is then considered in the general form and again it is shown that classical hydrodynamics is included as a special case. A class of solutions is obtained in the case when the current functions satisfy the Helmholtz equation and an expression is obtained for the analogue of the Bernoulli equation. Next, it is assumed that the motion is almost of the potential type and expressions are derived for the lift force and its moment, which are generalizations of the Chaplygin formulae and Zhukovskiy theorem. The final section is concerned with two plane symmetric and uniform-at-infinity streams travelling in opposite directions against each other. It is assumed that they are incompressible but conducting and that there are no body forces. Under these assumptions the present theory and the results of T.S. Solomakhova (Vestn. MGU, seriya 1, Mat., mekh., 1961, no. 1) are used to obtain expressions for the complex potential for each of the streams.

SUBMITTED: May 18, 1962

Card 2/2

32694

S/040/62/026/001/011/023  
D237/D304

26.1410

AUTHOR: Tkalich, V.S. (Sukhumi)

TITLE: Two-parameter motion in magneto-gas-dynamics  
(Gromeka and Chaplygin transformation)

PERIODICAL: Akademiya nauk SSSR. Otdeleniya tekhnicheskikh nauk.  
Prikladnaya matematika i mekhanika, v. 26, no. 1, 1962,  
96-103

TEXT: Starting with the system of equations of ideal magnetic gas dynamics of adiabatic motion, the two-parameter stationary case in absence of electric field in the given direction is discussed. The author uses the transformations of I.S. Gromeka (Ref. 2: Sobr. soch. Izd-vo AN SSSR, 1952). To obtain the solution of equations of motion in the form of two scalar equations in two unknown scalar functions, the first equation representing the law of change of the 3rd component of velocity vortex, and the 2nd equation giving the law of energy change per unit mass are given. With the help of an additional assumption of the absence of

Card 1/3



Two-parameter motion  $\pi_{00}$

32694  
S/040/62/026/001/011/023  
D237/D304

internal volume forces, the obtained solution is reduced to a canonical system which is then transformed into a linear one, by means of C.A. Chaplygin's (Ref. 15: O gazovykh strugakh (On Gaseous Streams), Gostekhizdat, 1949) transformation. Basic physical properties of Chaplygin flows so obtained are deduced. Motion in a longitudinal magnetic field is discussed together with general gas dynamical properties, and finally the motion in an arbitrarily directed magnetic field. The last is found to consist of several alternating zones of elliptic and hyperbolic flows. In particular it was found that when the flow velocity is lower than the thermal velocity, then hyperbolic flow is possible, while for the flow velocity higher than thermal, elliptic flow occurs. The author thanks I.I. Nochevkina, N.V. Saltanov, K.P. Stanyukovich, E.F. Tkulich, F.I. Frankl (deceased) and I.M. Yur'yev for useful criticisms. There are 24 references: 16 Soviet-bloc and 8 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: J.N. Kapur, Bull. Calcutta Math. Soc., 1959, no. 1, v. 51; L. Woltjer, Astrophys. J., 1959, no. 2, v. 130; R.R. Long, J. Fluid Mech. 1960, no. 1, v. 7; M.Z. Krzywoblocki and J. Mutant, Acta Phys. Austriaca, 1960, no. 1, v. 13. ✓

Card 2/3

32694

S/040/62/026/001/011/023

D237/D304

Two-parameter motion ...

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Gruzinskoy SSR  
(Physico-Technical Institute AS Georgian SSR)

SUBMITTED: October 20, 1961

✓

Card 3/3

31201  
S/057/62/032/002/004/022  
B104/B102

24.6714  
AUTHORS:

Tkalich, V. S., and Saltanov, N. V.

TITLE: Nonlinear Langmuir oscillations

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 2, 1962, 156-160

TEXT: The authors study plane, cylindrical and spherical oscillations of an electron plasma with allowance for the electric force, the pressure and frictional forces between the electrons and the surrounding ions and neutral particles. The authors proceed from the system

$$\left. \begin{aligned} \frac{\partial v}{\partial t} + \frac{v \partial v}{\partial r} &= -\frac{\partial p}{nm \partial r} - \left(\frac{e}{m}\right) E - \nu v, \\ \frac{\partial r^2 E}{r^2 \partial r} &= 4\pi e (n_0 - n), \quad \frac{\partial E}{\partial t} - 4\pi e n v = 0. \end{aligned} \right\} \quad (1)$$

where  $n$  is the number of electrons per unit volume,  $n_0 = \text{const}$  is the

Card 1/6

Nonlinear Langmuir oscillations

312011  
S/057/62/032/002/004/022  
B104/B102

number of ions per unit volume,  $\nu$  is the effective collision frequency between electrons and heavy particles,  $k = 0, 1, 2$  hold for plane, cylindrical and spherical cases, respectively. Using Lagrange variables the authors obtain

$$\frac{d^2 r}{dt^2} + \nu \frac{dr}{dt} + \Omega^2 r + \frac{1}{mn \partial r} \frac{\partial p}{\partial r_0} = \frac{C(r_0)}{r^k}, \quad C(r_0) = \frac{4\pi e^2}{m} \frac{\psi}{q}. \quad (5)$$

from (1) where  $r$  is the running coordinate of the volume element,  $\Omega^2 = 4\pi n_0 e^2 / m(k+1)$ ,  $q = 1, 1\pi, 4\pi$ ,  $\psi = \psi_* + q \int_{r_*}^r n(r_1) r_1^k dr_1$ , where  $\psi_*$  and  $r_*$  are arbitrary constants. The solutions of this differential equation are correct if the trajectories of the electron volume elements determined by them do not intersect each other. An intersection of trajectories would lead to the formation of shock waves. Several examples with non-intersecting trajectories are studied. For a cold plasma ( $p = 0$ ) Abel's second-order equation

Card 2/6

X

Nonlinear Langmuir oscillations

34204  
S/057/62/032/002/004/022  
B104/B102

$$v \frac{\partial v}{\partial r} + v\omega + \Omega^2 r = \frac{C(r_0)}{r^k} \quad (6)$$

is obtained from (5) with the aid of the independent variables  $r$  and  $r_0$ .  
For  $k = 0$  it is found that the oscillation period is independent of the amplitude, the ion density and the frictional force:

$$r = \frac{C(r_0)}{\Omega^2} + Re^{-\frac{\nu t}{2}} \cos(\omega t + \delta), \quad \omega \equiv \sqrt{\Omega^2 - \frac{\nu^2}{4}}, \quad (7)$$

$$\left. \begin{aligned} v &= -\Omega Re^{-\frac{\nu t}{2}} \sin(\omega t + \delta + \delta_0), \quad \sin \delta_0 = \frac{\nu}{2\Omega}, \\ E &= \frac{m\Omega^2}{e} Re^{-\frac{\nu t}{2}} \cos(\omega t + \delta), \\ n &= n(r_0) \left\{ \frac{n(r_0)}{n_0} + e^{-\frac{\nu t}{2}} [R' \cos(\omega t + \delta) - R\delta' \sin(\omega t + \delta)] \right\}^{-1}, \end{aligned} \right\} \quad (8)$$

$n(r_0)$  is the electron density distribution at  $t = 0$ . The relations  
hard 3/6

34204

3/057/62/032/002/004/022  
B104/B102

Nonlinear Langmuir oscillations

between  $R, \delta$ , velocity and density distributions at the time  $t = 0$  are

$$\left. \begin{aligned} v(r_0) &= -\Omega R \sin(\delta - t - \delta_0), \\ n(r_0) &= n_0 \left[ 1 - \frac{d}{dr_0} (R \cos \delta) \right]. \end{aligned} \right\} \quad (9).$$

A sufficient condition for the non-intersection of the volume trajectories is  $|\frac{dv(r_0)}{dr_0}| < 1$ , i. e., the distribution of  $v(r_0)$  must be sufficiently homogeneous. For  $\nu = 0$  (no friction) and on the condition that the motion of the electron gas is adiabatic ( $p = \bar{\sigma}(r_0)n^k$ )

$$T = 2 \int_{\mu_{\min}}^{\mu_{\max}} \frac{d\mu}{\sqrt{2\delta_0 - \Omega^2 \mu^2 + \frac{2n_0 \Omega^2}{n_0} \int \frac{d\mu}{\mu^k} - 2a_0 \int \frac{d\mu}{\mu^{(k+1)-1}}}} \quad (18)$$

is derived for the period of the motion. For  $k = 0$  the pressure is approximated according to S. A. Chaplygin (Izbrannyye trudy po mekhanike  
Card 4/6

Nonlinear Langmuir oscillations

34204  
S/057/62/032/002/004/022  
B104/B102

i matematike. GITTL, M., 1954) with  $p = p_0 - p_* n_0/n$ , where  $p_0$  and  $p_*$  are constants. Thus the equation of motion (5) can be written as

$$\frac{d^2 r}{dt^2} + \frac{dr}{dt} + \Omega^2 r - c^2 \frac{\partial^2 r}{\partial x^2} = \Omega^2 r. \quad (21).$$

By separating the variables, particular solutions are obtained from which conditions for the non-intersection of the trajectories are derived. The larger the oscillation amplitudes, the smaller the inhomogeneity in the distribution of the physical quantities must be at the beginning in order that the various electron volume elements do not intersect during their motion. The authors thank A. G. Sitenko for his interest. There are 21 references: 18 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: J. M. Dawson, Phys. Rev., 113, no. 2, 383, 1959; E. A. Jackson, Phys. of Fluids, 3, no. 5, 831, 1960.

Card 5/6

39802

S/179/62/000/003/002/015  
E202/E492

24 2321  
24 4750

AUTHOR: Tkalich, V.S. (Moscow)

TITLE: Compression of plasma cord by longitudinal magnetic field in the presence of shock wave

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye, no.3, 1962, 11-14

TEXT: A situation similar to that occurring in the theta-pinch installations is discussed. The growing external longitudinal magnetic field constricts plasma with an axial magnetic field. The plasma is formed as a result of the shock wave passing through a stationary non-conducting gas in which there is also a longitudinal magnetic field. The problem is formulated using the fundamental M.H.D. equations and considering a radial motion of plasma  $V = (v, 0, 0)$  in a longitudinal magnetic field  $\vec{H} = (0, 0, H)$  in a system of cylindrical coordinates  $r, \theta, z$ . If  $\theta$  and  $z$  are cyclic, a system of motion with homogeneous relative deformations exists which was solved earlier by L.I.Sedov (DAN SSSR, v.90, no.5, 1953). Applying the latter solutions and taking into consideration the high degree of ionization in the

Card 1/2



Compression of plasma cord ...

S/179/62/000/003/002/015  
E202/E492

vicinity of the shock wave, the author derives expressions for the various states of plasma in parametric form, introducing an auxiliary parameter  $\varepsilon$ . This treatment is followed by a detailed analysis of the motion of the shock wave relating the coordinates of the latter with the coordinates of the pinch. The work is concluded by formulating the initial and the boundary conditions from which the necessary desiderata for the shock wave to be effective are also deduced. ✓

ASSOCIATION: Energeticheskiy institut AN SSSR  
(Power Engineering Institute AS USSR)

SUBMITTED: May 8, 1961

Card 2/2

TITLE: Contribution to the theory of the stationary states of a high-temperature plasma, extraction of current from a plasma

SOURCE: Zhurnal teoreticheskoy fiziki, Vol. 94, No. 4, 1988, 1588-1592

DESCRIPTORS: Plasma; High temperature; Laser; Current; Stationary conditions

ABSTRACT: The stationary extraction of current from a plasma and the structure of the plasma sheath are studied. It is shown that the distribution function for the component of the velocity of the charged particles must be a function of  $H = eV + mv^2/2$ , where  $e$  and  $m$  are the charge and mass of the particle,  $V$  is the electrostatic potential, and  $v$  is the velocity. The distribution function for the current-carrying plasma is also studied.

ACCESSION NR: AP4045268

for  $v$  negative and  $H > H^*$ , and to vanish otherwise. Here  $a$  is a parameter greater than unity which is the same for all particles of the same kind.  $H^*$  is a constant value of the magnetic field.

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The concentration of the *Agrobacterium* suspension was 10<sup>6</sup> cells/ml (A), 10<sup>7</sup> cells/ml (B), 10<sup>8</sup> cells/ml (C), and 10<sup>9</sup> cells/ml (D). The concentration of the *Agrobacterium* suspension was 10<sup>6</sup> cells/ml (A), 10<sup>7</sup> cells/ml (B), 10<sup>8</sup> cells/ml (C), and 10<sup>9</sup> cells/ml (D). The concentration of the *Agrobacterium* suspension was 10<sup>6</sup> cells/ml (A), 10<sup>7</sup> cells/ml (B), 10<sup>8</sup> cells/ml (C), and 10<sup>9</sup> cells/ml (D). The concentration of the *Agrobacterium* suspension was 10<sup>6</sup> cells/ml (A), 10<sup>7</sup> cells/ml (B), 10<sup>8</sup> cells/ml (C), and 10<sup>9</sup> cells/ml (D).

104. The current is assumed to leave the plasma through a surface of potential  $V_0$ , which is the one carrying component is prevented by the potential barrier from reaching the surface of the plasma. When the potential barrier is high, the current is small and the temperature of the extracted component is not too great. In these states the density decreases with increasing potential, and consequently with increasing velocity. When the potential barrier is low, the current is large, and the temperature is high.

542. X

443

ACCESSION NO. ....

AUTHOR: Saltanov, N. V.; Tkalich, V. S.

TITLE: On the solution of a certain gas dynamics problem. An analogue of a Riemann wave

SOURCE: AN SSSR, Doklady, v. 140, no. 4, 1964, 529-532

TOPIC TAGS: nonstationary gas dynamics; relativistic gas magnetohydrodynamics, Riemann wave, Sedov equation

ABSTRACT: The authors consider a stationary problem of gas dynamic and of the gas magnetohydrodynamics in two cylindrical coordinates. The initial equations are transformed by means of a symmetrical transformation to a system of two scalar equations, for the determination of the total pressure and the first velocity component. Transformation to the  $\rho, \psi, \theta$  variables results in an equation, which coincides with the Sedov's equation (1. Sedov, Problems of Hydrodynamics, Moscow, 1959). The method of characteristics is developed for the

Card 1 2

1000000

ACCESSION No. AI 4000-10

analysis of stationary gas-dynamical problems results are obtained for the  
in stationary flow conditions. The results for the medium were the same  
for the case of a stationary flow.

ASSOCIATION University of Cambridge, Cambridge, England. T. G. Shewchuk  
1970

Card 2/2

TKALICH, Ye.F.; TKALICH, V.S.

Steady-state theory of a high-temperature plasma; representation of  
current from a plasma. Zhur. tekhn. fiz. 34 no. 2, 122-126, 1968.  
(M.P. 17:00)

L 36469-66 EWP(m)/EWT(1) WW/GD

ACC NR: AT6016718

(N)

SOURCE CODE: UR/0000/65/000/000/0045/0048

AUTHOR: Tkalich, V. S.

ORG: Institute of Hydromechanics AN UkrSSR (Institut giromekhaniki ANUkrSSR)

TITLE: Continuous flow of a fluid with finite conductivity around a half body

SOURCE: AN UkrSSR Gidrodinamika bol'shikh skorostey (High speed hydrodynamics), no. 1. Kiev, Izd-vo Naukova dumka, 1965, 45-48

TOPIC TAGS: fluid flow, heat conductivity, boundary layer theory, magnetic field

ABSTRACT: The article considers the steady state problem for an incompressible nonviscous fluid of finite conductivity with a single cyclic coordinate. Using previously published results in a Cartesian system of coordinates, the author finds the following class of thin solutions:

$$\begin{aligned} \vec{H} &= a \nabla \xi \times \vec{e}_3 + h \vec{e}_3; \quad \vec{U} = a \nabla \xi \times \vec{e}_3 + \left[ u_0(\xi) + \frac{ah}{4\pi a \rho} \right] \vec{e}_3 \\ \vec{E} &= \frac{\partial h - a a u_0}{c a} \nabla \xi + \frac{c}{4\pi a} \nabla h \times \vec{e}_3; \quad 0 < a \\ P &= P_0 - \rho F - \frac{\partial \rho (\nabla \xi)^2}{2}; \quad a^2 - \frac{a^2}{4\pi \rho} = b \end{aligned} \quad (1)$$

Card 1/2

L 36469-66

ACC NR: AT6016718

The article arrives at final expressions which characterize the distribution of the magnetic field at any given point in the flow. In particular, they permit investigation of the structure of the magnetic boundary layer. Orig. art. has: 10 formulas.

SUB CODE: 20, 12/ SUBM DATE: 30Sep65/ ORIG REF: 007

Card 2/2 *9/80*



ACC NR: AP7005434

SOURCE CODE: UR/0382/66/000/002/0012/0016

AUTHOR: Tkalich, V. S.

ORG: none

TITLE: Subsonic flow about a profile in magnetogasdynamics

SOURCE: Magnitnaya gidrodinamika, no. 2, 1966, 12-16

TOPIC TAGS: hodograph, magnetogasdynamics

ABSTRACT: A stationary, two-coordinate magnetogasdynamic problem is investigated, and the solution is derived in the plane of the Chaplygin-Sedov hodograph. An approximation is constructed on the basis of physical and mathematical analogy and used to solve the problem of uninterrupted subsonic flow past a singly-connected profile. Relations for lift and moments, which are generalizations of the Chaplygin and Prandtl-Glauert formulas, are obtained and analyzed. The author thanks Professor G. A. Dombrovskiy for valuable advice. Orig. art. has: 4 formulas. [JPRS: 38,764]

SUB CODE: 20 / SUBM DATE: 07May65 / ORIG REF: 014 / OTH REF: 002

Card 1/1

UDC: 533.011.3:538.4

RODYAKIN, V.V.; ANDREYEV, A.Ye.; BOYKO, Yu.N.; VAYNSHTEYN, G.M.;  
KARGIN, V.M.; BRODSKIY, E.Ye.; KHABAPOVA, N.P.; TKALICH, V.S.;  
Prinimali uchastiye; PIROZHOK, Ye.V.; YURCHENKO, S.V. [deceased];  
MUNTYANOV, I.P.; SUKHORUKOVA, N.Yu.; BULANAYA, N.K.; AKHTEMENKO,  
N.Ya.; BRAGIN, A.M.

Handling of molten metallic magnesium. TSvet. met. 37 no.12.  
53-56 D '64. (MIRA 18:2)

L 15891-66 EWT(1)/EWP(m)/T-2 LIP(c) OS  
 ACC-NR AT6004254 SOURCE CODE: UR/0000/65/000/000/0005/0014

AUTHOR: Tkalic, V.S.

ORG: Hydromechanical Institute of the AN UkrSSR (Institut gidromekhaniki AN UkrSSR)

TITLE: The steady state problem in magnetohydrodynamics. Flow around a profile

SOURCE: AN UkrSSR. Issledovaniya po prikladnoy gidrodinamike (Research in applied hydrodynamics). Kiev, Izd-vo Naukova dumka, 1965, 5-14

TOPIC TAGS: magnetohydrodynamics, jet flow, hydrodynamics

ABSTRACT: In the steady state case the system of equations for ideal magnetohydrodynamics has the following form:

$$\left. \begin{aligned} \operatorname{div} \vec{H} &= 0; \operatorname{div} \vec{U} = 0; \vec{U} \times \vec{H} = c \nabla \Phi \\ \nabla \xi &= \vec{U} \times \operatorname{rot} \vec{U} - \frac{1}{4\pi\rho} \vec{H} \times \operatorname{rot} \vec{H} \\ \xi &= \frac{\vec{U}^2}{2} + \frac{p}{\rho} + F; P = p + \frac{\vec{H}^2}{8\pi}; \vec{E} = -\nabla \Phi \end{aligned} \right\} \quad (1)$$

Card 1/2

L 15891-66

ACC. NR: AT6004254

where  $\vec{H}$  is the magnetic field;  $\vec{v}$  is the velocity;  $\rho$  is the density;  $p$  is the hydrodynamic pressure;  $P$  is the total pressure;  $\Phi$  is the potential electric field;  $F$  is the potential of the external forces; and,  $\delta$  is the hydrodynamic energy per unit volume. The problem is developed mathematically in a system of curvilinear coordinates. In the case of flow around a thin slightly curved profile, the following final expressions are obtained for the lifting force  $Q$  and its moment,

$$Q = 2i\delta\rho a w^2 e^{i\theta} \left[ \pi\theta + \int_{-a}^a \frac{F(\zeta) d\zeta}{(a-\zeta)\sqrt{a^2-\zeta^2}} \right];$$

$$M = -\delta\rho w^2 \left[ \pi\theta a^2 - 2 \int_{-a}^a \frac{F(\zeta) \zeta d\zeta}{\sqrt{a^2-\zeta^2}} \right].$$

In these expressions, the positive constant  $w$  and the angle of attack,  $\theta$ , characterize the complex potential of the unperturbed flow. These expressions differ from the analogous expressions in classical hydrodynamics in that the multiplier  $\delta = \pm 1$ ; in addition, the quantity  $w$  has a different physical sense. Orig. art. has: 19 formulas.

SUB CODE: 20/ SUBM DATE: 26Aug65/ ORIG REF: 016/ SOV REF: 000 OTH REF: 000

Card 2/2

L 15656-66 EWT(1)/EWP(m)/T-2 IJP(c) SOURCE CODE: UR/0382/65/000/004/0035/0040  
ACC NR: AP6003200

AUTHOR: Saltanov, N. V.; Tkalic, V. S.

ORG: none

TITLE: A nonstationary, one-dimensional problem in magnetogasdynamics. Riemann waves

SOURCE: Magnitnaya gidrodinamika, no. 4, 1965, 35-40

TOPIC TAGS: magnetogasdynamics, Riemann wave, relativistic plasma

ABSTRACT: Introducing appropriate transformations, the relativistic equations of motion and continuity and equation of induction are rewritten to coincide with Sedov's equations in Rudnev's form, with accuracy up to the symbols. This permits use of known stationary solutions in the analysis of nonstationary problems and vice versa. Conditions for linearizing the problem are also indicated. In the process of linearizing the problem, the Riemann waves are obtained. By imposing further restrictions on the physical variables the problem is reduced to a nonrelativistic case which emphasizes the two extreme cases of very long and very short wave.

Orig. art. has: 25 formulas.

SUB CODE: 20/

SUBM DATE: 25Dec64/

ORIG REF: 008/

OTH REF: 000

UDC: 533.95 : 538.3

Card 1/1

ANDREYEV, A.Ye.; ROBYAKIN, V.V.; VAYNSHTEYN, G.M.; KARGIN, V.M.; BRODSKIY,  
E.Ye.; BOYKO, Yu.N.; TKALICH, V.S.; KHABAROVA, N.P.

Changes in the quality of magnesium during the refining process.

TSvet. met. 37 no.10:44-47 0 '64.

(MIRA 18:7)

ACCESSION NP: ARS017535

07/16/2001 10:12:12

SOURCE: Ref. zh. Fizika, Abs. 6090

AUTHORS: Tkulich, Ye. F.; Tkulich, V. S.

TITLE: The stationary symmetrical multicomponent plasma problem <sup>21</sup>

CITED SOURCE: Dokl. 3-y Sibirsk. konferentsii po matem. i mekhan., 1964, Tomsk, Tomskiy un-t, 1964, 354-355

TOPIC TAGS: multicomponent plasma, kinetic equation, Maxwell distribution, plasma temperature, plasma density

TRANSLATION: A system of collisionless kinetic equations is introduced, describing a multicomponent plasma. The solution of these equations, in the particular case of one cyclic coordinate, is represented in the form of a formal generalization of Maxwell's distribution. The obtained distribution is used in the calculation of the density, macroscopic velocity, and the temperature. Yu. Ivanov.

SUB CODE: ME

ENCL: 00

<sup>no</sup>  
Card 1/1

3C  
L 3275' 65 EWG(j)/ENT(m)/EPF(c)/EWP(t)/EPF(n)-2/EPR/EWP(b) Pr-4/Pn-4/Pu-4  
ISF(c) JD  
ACCESSION NR: AP4047423 S/0136/64/000/010/0045/0047 4/1

AUTHORS: Andreyev, A.Ye.; Rodyakin, V.V.; Vaynshteyn, G.M.; Kargin, V.M.; Brodskiy, E.Ye.; Boyko, Yu.N.; Tkalich, V.S.; Khabarova, N. P.

TITLE: Changes in magnesium quality during the refining process

SOURCE: Tsvetny\*ye metally\*, no. 10, 1964, 45-47

TOPIC TAGS: nitrogen, oxygen, chlorine, impurity, magnesium,  
flux refinement, recovery, transport

ABSTRACT: The method of oxygen and nitrogen control in magnesium was used to assess the effectivity of removing admixtures. Flux refining was employed and specimens taken from two cells of each electrolyzer as well as before and after refining and 15 to 20 min settling. The quality of refined Mg did not differ substantially from that of the crude ore. The amounts of Fe in Mg changed negligibly and the higher content in the crude product was attributed to the drastic temperature drop that accompanies the transport of the metal to the refining furnaces. Neither did chlorine undergo any major changes and the proposed process did not affect the quality

Card 1/2



L 30755-65

ACCESSION NR: AP4047423

of the metal with respect to chlorine. Thus, the authors were able to retain the original level of oxygen and nitrogen in Mg by combining the proper temperature conditions with flux refining and settling time. The combined refining process is recommended until the transport of crude Mg is improved at which time it will become possible to use crude Mg as a reducing agent. Orig. art. has: 1 table and 1 figure.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NR REF SOV: 006

OTHER: 002

Card 2/2

ACCESSION NO: AR5017535

REF ID: A66665/000100/0012 0012

SOURCE: Ref. zh. Fizika, Abs. 6090

AUTHORS: Tkalich, Ye. F.; Tkalich, V. S.

TITLE: The stationary symmetrical multicomponent plasma<sup>21</sup> problem

CITED SOURCE: Dokl. 3-y Sibirsk. konferentsii po matem. i mekhan., 1964, Tomsk, Tomskiy un-t, 1964, 354-355

TOPIC TAGS: multicomponent plasma, kinetic equation, Maxwell distribution, plasma temperature, plasma density

TRANSLATION: A system of collisionless kinetic equations is introduced, describing a multicomponent plasma. The solution of these equations, in the particular case of one cyclic coordinate, is represented in the form of a formal generalization of Maxwell's distribution. The obtained distribution is used in the calculation of the density, macroscopic velocity, and the temperature. Yu. Ivarov.

SUB CODE: ME

ENCL: 00

Card <sup>10</sup>1/1

SALTANOV, N.V.; TKALICH, V.S.

Nonsteady-state magneto-gas dynamic problem. Dokl. AN SSSR 156  
no. 3:529-532 '64. (MIRA 17:5)

1. Kiyevskiy gosudarstvennyy universitet im. T.G.Shevchenko.  
Predstavleno akademikom L.I.Sedovym.

TKALICH, Ye.F.; TKALICH, V.S.

Contribution to the theory of stationary states of a high-temperature  
plasma; a plasmoid with a longitudinal magnetic field. Zhur. tekhn. fiz.  
33 no.7:815-819 J1 '63. (MIRA 16:9)  
(Plasma (Ionized gases)) (Magnetic fields)

TRAKHTENBERG, V.S.; TRAKHTENBERG, L.I. (USSR);

"On steadystate symmetric problem of high-temperature plasma"

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

SALTANOV, N.V.; TKALICH, V.S. (Sukhumai)

"On the unsteady problem of magnetogasdynamics; an analogue of L.I. Sedov's hodograph method; Riemann waves"

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

L 18362-63

EPR/EPA(b)/EWT(1)/EWG(k)/BDS/EEC(b)-2/ES(w)-2 AFFTC/ASD/  
ESD-3/AFWL/IJP(C)/SSD Ps-4/Pd-4/Pz-4/Pi-4/Po-4/Pab-4  
S/0057/63/033/007/0815/0819

ACCESSION NR: AP3003950 AT/WW

AUTHOR: Tkalic, Yo.F.; Tkalic, V.S.

TITLE: Theory of the stationary states of a high temperature plasma; a  
plasmoid with a longitudinal magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v.33, no.7, 1963, 815-819

TOPIC TAGS: high-temperature plasma, plasmoid, plasma tube

ABSTRACT: The purpose of the present paper was to develop a general method for treating steady motions of plasmas when a simplifying symmetry is involved. The plasma is described by the kinetic equation without collision terms. This is written for an N component plasma in tensor form in general curvilinear coordinates. Maxwell's equations and the kinetic equation are specialized to the case of steady motion and the presence of one cyclic coordinate (one coordinate on which the quantities of interest do not depend). The distribution function then depends only on the Hamiltonian and the cyclic momentum. The logarithm of the distribution function is expanded in a power series in the Hamiltonian and the cyclic momentum, and only the linear terms are retained. The resulting distribution function is further simplified by the assumption (which occasions no loss of generality) that the two

Card 1/2

L 18362-63  
ACCESSION NR: APR003950

0

non-cyclic coordinates are mutually orthogonal. The distribution function so obtained is said to enable one to estimate the rate at which particles leak through a barrier as a result of long range collisions (electromagnetic interactions), but the calculation is not given. The above derivation is repeated for the case in which two coordinates are cyclic. The special case of cylindrical coordinates in which the non-cyclic coordinate is the radius is discussed in some detail, with terms quadratic in the momenta retained in the expansion of the logarithm of the distribution function. The resulting equations for a two component plasma are approximately integrated on the assumption that the ion temperature is sufficiently low so that the space charge can be regarded as neutralized. Depending on the value assigned to a constant of integration, the resulting solution can represent a plasma filament or a plasma tube. In the case of a thin-walled tube, the density distribution across the wall is approximately Gaussian, and the wall thickness must exceed the electron Larmor radius. Orig.art.has: 35 formulas.

ASSOCIATION: none

SUBMITTED: 15Feb62

DATE ACQ: 07Aug63

ENCL: 00

SUB CODE: PH LBI

NO REF SOV: 006

OTHER: 005

Card 2/2



3c  
L 21201-65 EPA(s)-2/ENT(m)/EPF(n)-2/EPR/ENP(t)/EPA(bb)-2/ENP(b) Ps-h/  
Pad/Pt-10/Pu-4 IJP(c) JD/HW/HW/JG S/0136/64/000/012/0053/0056  
ACCESSION NR: AP5000940

AUTHOR: Rodyakin, V.V., Andreyev, A. Ye., Boyko, Yu.N., Vaynshteyn, G.M.,  
Kargin, V.M., Brodskiy, E. Ye., Khabarova, N.P., Tkach, V.S.

TITLE: Transportation of liquid metallic magnesium

SOURCE: Tsvetnyye metally, no. 12, 1964, 53-56

TOPIC TAGS: liquid magnesium, liquid magnesium transport, titanium production,  
magnesium contamination, vacuum ladle, nickel impurity

ABSTRACT: A special vacuum ladle was designed for the transportation of liquid magnesium which protects against reaction with nitrogen and oxygen and contamination by inclusions. The metal was sampled from the electrolytic cells, from the vacuum ladle and from the reactor, which is the route the magnesium followed, and the content of O, N, Cl, Fe, Si and Ni was determined in these samples. The content of all impurities except nickel dropped during the intake and transportation of the magnesium. The quality of the magnesium deteriorated when charged into the reactor, the nitrogen and oxygen contents in the samples having increased owing to poor air-tightness of the charging unit. The content of chlorine also increased. The magnesium was contaminated with nonmetallic

Card 1/1

L 21201-65  
ACCESSION NR: AP5000940

7  
inclusions mainly during the operations of sampling from the electrolytic cells and when pouring into the reducing reactors; the content of metallic impurities remained unchanged. To improve the sampling methods, and thus avoid contamination, further studies are to be directed toward excluding contact of the magnesium with the air, creation of a shielding atmosphere, and reduction of the number of operations associated with pouring the liquid magnesium from vessel to vessel. "Ye. V. Pirozhok, S. V. Yurchenko (deceased), I. P. Muntyanov, N. Yu. Sukhorukova, N. K. Bulanaya, N. Ya. Akhtemenko and A. M. Bragin also took part in the work." Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: MM, IE

NO REF SOV: 001

OTHER: 000

Card 2/3

L 3204-05 SPT(n)-2/THA(w)-2/DTT 1 1/1/1 18-1/10-1/17 5 1/1/1 1/1/1

ACCESSION NR: AR5017535

UR/0058/65/000/006/0012/0012

SOURCE: Ref. zh. Fizika, Abs. 6G90

AUTHORS: Tkalich, Ye. F.; Tkalich, V. S.

TITLE: The stationary symmetrical multicomponent plasma<sup>21</sup> problem

CITED SOURCE: Dokl. 3-y Sibirsk. konferentsii po matem. i mekhan., 1964, Tomsk, Tomskiy un-t, 1964, 354-355

TOPIC TAGS: multicomponent plasma, kinetic equation, Maxwell distribution, plasma temperature, plasma density

TRANSLATION: A system of collisionless kinetic equations is introduced, describing a multicomponent plasma. The solution of these equations, in the particular case of one cyclic coordinate, is represented in the form of a formal generalization of Maxwell's distribution. The obtained distribution is used in the calculation of the density, macroscopic velocity, and the temperature. Yu. Ivarov.

SUB CODE: ME

ENCL: 00

mb  
Card 1/1

L 18362-63

EPR/EPA(b)/EWT(1)/EWG(k)/BDS/EEC(b)-2/ES(w)-2 AFFTC/ASD/  
ESD-3/AFWL/IJP(C)/SSD Ps-L/Pd-L/Pz-L/Pl-L/Po-L/Pab-L  
S/0057/63/033/007/0815/0819

ACCESSION NR: AP3003950 AT/WW

AUTHOR: Tkalich, Yo.F.; Tkalich, V.S.

TITLE: Theory of the stationary states of a high temperature plasma; a  
plasmoid with a longitudinal magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v.33, no.7, 1963, 815-819

TOPIC TAGS: high-temperature plasma, plasmoid, plasma tube

ABSTRACT: The purpose of the present paper was to develop a general method for treating steady motions of plasmas when a simplifying symmetry is involved. The plasma is described by the kinetic equation without collision terms. This is written for an N component plasma in tensor form in general curvilinear coordinates. Maxwell's equations and the kinetic equation are specialized to the case of steady motion and the presence of one cyclic coordinate (one coordinate on which the quantities of interest do not depend). The distribution function then depends only on the Hamiltonian and the cyclic momentum. The logarithm of the distribution function is expanded in a power series in the Hamiltonian and the cyclic momentum, and only the linear terms are retained. The resulting distribution function is further simplified by the assumption (which occasions no loss of generality) that the two

Card 1/2

L 18362-63

ACCESSION NR: AP0003950

0

non-cyclic coordinates are mutually orthogonal. The distribution function so obtained is said to enable one to estimate the rate at which particles leak through a barrier as a result of long range collisions (electromagnetic interactions), but the calculation is not given. The above derivation is repeated for the case in which two coordinates are cyclic. The special case of cylindrical coordinates in which the non-cyclic coordinate is the radius is discussed in some detail, with terms quadratic in the momenta retained in the expansion of the logarithm of the distribution function. The resulting equations for a two component plasma are approximately integrated on the assumption that the ion temperature is sufficiently low so that the space charge can be regarded as neutralized. Depending on the value assigned to a constant of integration, the resulting solution can represent a plasma filament or a plasma tube. In the case of a thin-walled tube, the density distribution across the wall is approximately Gaussian, and the wall thickness must exceed the electron Larmor radius. Orig.art.has: 35 formulas.

ASSOCIATION: none

SUBMITTED: 15Feb62

DATE ACQ: 07Aug63

ENCL: 00

SUB CODE: PH MM

NO REF SOV: 006

OTHER: 005

Card 2/2

TKALICH, Ye.F.; TKALICH, V.S.

Contribution to the theory of stationary states of a high-temperature  
plasma; a plasmoid with a longitudinal magnetic field. Zhur. tekhn. fiz.  
33 no.7:815-819 J1 '63. (MIRA 16:9)  
(Plasma (Ionized gases)) (Magnetic fields)

ACCESSION NR: AR5017535 UR/0056/65/000/000/7012/7012

SOURCE: Ref. zh. Fizika, Abs. 6G90

AUTHORS: Tkalich, Ye. F.; Tkalich, V. S.

TITLE: The stationary symmetrical multicomponent plasma problem

CITED SOURCE: Dokl. 3-y Sibirsk. konferentsii po matem. i mekhan., 1964, Tomsk, Tomskiy un-t, 1964, 354-355

TOPIC TAGS: multicomponent plasma, kinetic equation, Maxwell distribution, plasma temperature, plasma density

**TRANSLATION:** A system of collisionless kinetic equations is introduced, describing a multicomponent plasma. The solution of these equations, in the particular case of one cyclic coordinate, is represented in the form of a formal generalization of Maxwell's distribution. The obtained distribution is used in the calculation of the density, macroscopic velocity, and the temperature. Yu. Ivanov.

SUB CODE: ME

ENCL: 00

Card <sup>no</sup> 1/1

TITLE: Contribution to the theory of the stationary states of a high-temperature plasma; extraction of current from a plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.9, 1964, 1588-1592

TOPIC: Plasma; high-temperature plasma; current carrier; stationary solutions



for  $v$  negative and  $H > H^*$ , and to vanish otherwise. Here  $a$  is a parameter greater than unity which is allowed to approach unity in the result,  $H^*$  is a constant, and

The

TRALICH, V.S.; TRALICH, YE.F. (Sukhumi)

" On steadystate symmetric problem of high-temperature plasma "

Report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

VASIL'YEV, A.A.; TKALIN, I.M.; SHTEYNENAYDER, M.B.

Line assembly of the movable parts of electric meters. Priborostroenie  
no.4:21-23 Ap '63. (MIRA 16:4)  
(Assembly-line methods)

TKALIN, Ivan Mikhaylovich; PETROV, V.A., retsenzent;  
SHEYNSHNAYDER, M.B., inzh., nauchn. red.; ALEKSEYEVA,  
Ye.A., red.

[Assembly-line production of electrical instruments] Po-  
tochnoe proizvodstvo elektricheskikh priborov. Moskva,  
Energia, 1965. 343 p. (MIRA 18:7)

1. Zavod "Vibrator", Leningrad (for Shteynshmayder).

SEREBRENITSKIY, Pavel Pavlovich; CHEKHOV, Vladimir Nikolayevich;  
TKALIN, I.M., nauchn. red.

[Mechanization and automation of winding operations in the  
manufacture of electrical instruments] Mekhanizatsiya i  
avtomatizatsiya namotokhaykh rabot v elektromekhanizatsii.  
Moskva, Energiya, 1965. 140 p. (MIRA 18:10)

TKALYA, A.

Issuing wages to fattening centers attached to sugar plants. Den.  
i kred. 21 no.9:73-74 S '63. (MIRA 16:10)

1. Starshiy ekonomist Cherkasskoy oblastnoy kontory Gosbanka.

VERFEL, Jaroslav, inz.; TKANY, Zdenek, doc. inz. dr. CSc.

Sinking of uncased ditches at the Nechranice Waterworks.  
Inz stavby 12 no. 2: 54-62 F '64.

1. Geologicky pruzkum, n.p., Brno.

TKANY, Zdenek, dr., inz., C.Sc.

Percussion drilling of deep boreholes. Rudy 11 no.4:110-  
116 Ap '63.

1. Geologicky pruzkum, n.p., Brno.



TKANY, Zdenek, dr. inz., nositel cestneho odznaku "Nejlepsi pracovník  
geologické služby"

Technology of boring by diamond bits. Geol průzkum 5 no.9:  
262-265 S '63.

1. Geologický průzkum, n.p., Brno.

TKANY, Zdenek, doc. dr. inz. kandidat technickych ved

Work of the bit in percussion boring. Geol pruzkva 6 no.11:  
325-327 N '64.

1. Higher School of Technology, Brno.

JEDLICKA, Miroslav, inz.; TKANY, Zdenek, doc. inz. dr. CSc.

Stabilizing sliding slopes by draining them by horizontal boreholes. Inz stavby 13 no.3:107-113 Mr '65.

1. Geologicky pruzkum National Enterprise, Brno (for Jedlicka)
2. Higher School of Technology, Brno (for Tkany).

TKASH, M.; SAMSONOV, V.; BOROD'KO, I. (Vorkuta, Komi ASSR); LOGACHEV, A.  
(Lipetsk)

From the editor's mail. Sov. profsoyuzy 19 no.15:22 Ag '63.  
(MIRA 16:8)

1. Neshtatnyy instruktor gorodskogo komiteta Kommunisticheskoy partii Ukrainy, Krivoy Rog, Dnepropetrovskoy obl. (for Tkach).
2. Predsedatel' rabocheho komiteta lesopromyshlennogo khozyaystva "Glavleskhoza", Maykop, Krasnodarskogo kraya (for Samsonov).
3. Neshtatnyye korrespondenty zhurnala "Sovetskiye profsoyuzy" (for Borod'ko, Logachev).

(Socialist competition)

L 1996-66 EWT(m)/EWA(h)

ACCESSION NR: AP5020263

UR/0367/65/002/001/0124/0130

AUTHOR: Meshcheryakov, V. A.; Nemenov, L. L.; Solov'yev, L. D.; Strokach, P.; Tkebuchava, F. G.

TITLE: Mechanism of emission of hard  $\gamma$  quanta in the reaction  $\pi + n \rightarrow \pi + \gamma + N$

SOURCE: Yadernaya fizika, v. 2, no. 1, 1965, 124-130

TOPIC TAGS: photon emission, pion proton interaction, nuclear interaction, pion pion interaction

ABSTRACT: The authors analyze the mechanism of hard-photon emission when pions interact with nucleons. The contributions of different Feynman diagrams to the cross section of this process are first analyzed, and it is shown by comparison with experimental data that various contributions and interferences of the high-order diagrams can be neglected. From the experimental data on the reaction  $\pi^- + p \rightarrow \pi^- + \gamma + p$  the authors determine the interaction constant for the reaction  $\gamma + \pi \rightarrow \pi + \pi$ , and find it to be equal to  $C^2 = 0.9 \pm 0.5$ . Only the single-meson diagrams are taken into account, and the contribution of diagrams with rescattering are neglected. Diagrams in which  $\gamma$  quanta are emitted by nucleons are likewise neglected. The solution of the dispersion equation for the amplitude of the process in question is obtained in this paper as a function of only a single constant,

Card 1/2

L 1996-66

ACCESSION NR: AP5020263

which facilitates the analysis of experimental data, inasmuch as they are too scanty for the determination of two constants. "The authors thank B. M. Pontecorvo for interest in the work and L. I. Lapidus for valuable hints." Orig. art. has: 3 figures and 22 formulas. 44, 55

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research) 44, 55

SUBMITTED: 04Dec64

ENCL: 00

SUB CODE: NP

NR REF SOV: 005

OTHER: 005

Card 2/2 DP

NEDOLIVKO, L.F.; TKEBUCHAVA, G.I.

Case of osteopocilia. Vest. rent. 1 rad. 36 no. 2:68 Mr-Ap '61.  
(MIRA 14:4)

(BONES--DISEASES)

TKRBUCHAVA, G.I.

Leiomyoma of the esophagus. Vest.khir. 82 no.2:89-91 F '59.  
(MIRA 12:2)

1. Iz khirurgicheskoy kliniki usovershenstvovaniya vrachey (nach.-  
prof. P.A. Kupriyanov) Voenno-meditsinskoy ordena Lenina akademii  
imeni S.M. Kirova. Adres avtora: Leningrad, pr. K. Marksa, d. 7/8,  
khirurgicheskaya klinika usovershenstvovaniya vrachey Voenno-me-  
ditsinskoy akademii ordena Lenina im. S.M. Kirova.

(ESOPHAGUS, neoplasms  
leiomyoma (Rus))  
(LEIOMYOMA, case reports  
esophagus (Rus))



TKEBUCHAVA, G.I.

Perforation of the wall of the cecum by Ascaris. Vest. khir. 84  
no. 2:125-126 F '60. (MIRA 14:1)  
(ASCARIDS AND ASCARIASIS) (CECUM—DISEASES)

TKELASHVILI, N.D.

TKELASHVILI, N.D.

On the first Soviet electric locomotive. Elek. i tepl. tiaga no.11:  
22 N '57. (MLRA 10:11)

1. Mashinist-instruktor depo Khashuri Zakavkazskoy dorogi.  
(Electric locomotives)

TKEMALADZE, L.A. [deceased]

Precast reinforced concrete double-curvature shells for roofs of  
medium size. Trudy nauch. korr. Inst. stroi. dela AN Gruz. SSR.  
no.2:121-124 '58. (MIRA 12:7)  
(Roofs, Shell)

TKEMALADZE, L.M.

~~SECRET~~  
Effect of an ultrahigh-frequency field on certain liver functions  
in experimental hepatitis. Vop.kur.fizioter. i lech.fiz.kul't.  
23 no.3:268-269 My-Je '58 (MIRA 11:7)  
(LIVER)  
(ELECTRICITY--PHYSIOLOGICAL EFFECT)

TKEMALADZE, L. M.

TKEMALADZE, L. M. -- "The Effect of an Ultra-High-Frequency Electrical Field on Certain Functions of the Liver in Experimental Hepatitis." Georgian State Publishing House for Medical Literature. Tbilisi State Medical Inst. Tbilisi, 1955. (Dissertation for the Degree of Candidate in Medical Sciences).

So.: Knizhnaya Letopis', No. 2, 1956.

ANANIASHVILI, G.D.; TKEMALADZE, M., red.

[Fundamental principles of bioenergetics] Osnovnye polozenii  
bioenergetiki. Tbilisi, Gos. izd-vo "Sabchota Sakartvelo," 1961.  
124 p. (MIRA 14:11)

(Bioenergetics)

TKEMALADZE, N.M., prof.; APRIDONIDZE, L.I., gornyy inzh.

Performance of the K-52m cutter-loader on an inclined coal seam.

Ugol' 39 no.11:38 N '64.

(MIRA 18:2)

TKEMALADZE, Nikolay Markozovich

[Principles of the theory and calculations of mine  
transportation equipment] [Osnovy teorii i raschety rud-  
nichnykh transportnykh ustanovok. Tbilisi, Gos.izd-vo  
"TSodna"] Pt.1. 1963. 333 p. [In Georgian]



TKEMALADZE, N. M.

IA 1/4/76

USSR/Minerals  
Coal  
Mining Methods

May 48

"A Fast Method of Excavating the Main Drifts of the  
'Yugo-Vostochnaya' Mine in Tkibul," N. M. Tkemaladze,  
Engr, 2 pp

"Ugol'" No 5 (266)

Subject mines are being worked through two main  
galleries. Describes dimensions of two drifts and  
shows how they have aided in the exploitation of  
this mine.

FDB

1/49T76

MSHVENIYERADZE, D.M.; TOGONIDZE, V.R.; KVACHADZE, D.Ye.; SHENGELIYA, L.T.;  
DZHAPARIDZE, N.N.; CHKHEIDZE, V.V.; SACHALELI, I.A.; TKEMALADZE, R.K.

Results of studying the compaction of loess by heavy tampers  
in the city of Rustavi. Trudy GPI [Gruz.] no.1:139-144 '63.  
(MIRA 18:2)

TKEMALADZE, Sh.G.

Cancer of the larynx in a 15-year-old girl. Vest.otorin. 20  
no.2:125 Mr-Apr '58. (MIRA 12:11)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - prof.S.N.  
Khechinashvili) Tbilisskogo instituta usovershenstvovaniya  
vrachey.

(LARYNX--CANCER)

TKEMALADZE, Sh.G., ordinator

Experimental study of the wound healing process following laryngectomy. Vest. otorin. 22 no.1:55-59 Ja-F '60. (MIRA 14:5)

1. Iz kafedry bolezney ukha, gorla i nosa (zav. - prof. S.N. Khechinashvili) Tbilisskogo gosudarstvennogo instituta usovershenstvovaniya vrachey i kafedry topograficheskoy anatomii i operativnoy khirurgii (zav. - prof. Sh.S.Toidze) Tbilisskogo meditsinskogo instituta.

(LARYNX—SURGERY)

KHECHINASHVILI, S.N.; TOIDZE, Sh.S.; ~~TKEMALADZE, Sh.G.~~

Technic of stuture of pharyngeal defect in total laryngectomy. Vest.  
oto-rin. 18 no.3:49-51 My-Je '56. (MLRA 9:8)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - prof. S.N.  
Khechinashvili) i kafedry topograficheskoyanatomii i operativnoy  
khirurgii (zav. - prof. Sh.S.Toidze) Tbilisskogo gosudarstvennogo  
insituta usovershenstvovaniya vrachey.

(LARYNX, surgery,

excis., total, pharyngeal suture (Rus))

TKEMALADZE, Sh. G., Cand. Medic. Sci. (diss) "On Question of  
Healing of Wounds After Complete Removal of Larynx, (Experi-  
mental and Clinical Observations," Tbilisi, 1961, 26 pp.  
(Tbilisi Med. Inst.) 160 copies (KL Supp 12-61, 289).

GEGESHDZE, G.A.; TKESHELASHVILI, G.K., red.; NATISHVILI, A.G.,  
red.izd-va; GIORGADZE, O.N., red.izd-va; TODUA, A.R., tekhn.red.

[Continuous and automatic lines in some enterprises of the  
electric machinery industry in Georgia] Potochnye i avtomati-  
cheskie linii na nekotorykh predpriyatiyakh elektromashinostroi-  
tel'noi promyshlennosti Gruzinskoi SSR. Tbilisi, Izd-vo Akad.  
nauk Gruzinskoi SSR, 1960. 162 p. (MIRA 15:5)  
(Georgia--Electric machinery) (Automation)

TKESHELASHVILI, G.K., kand.tekhn.nauk, dotsent

Concept of total power in a nonsymmetrical multiphase current network. Izv. vys. uchob. zav.; energ. 6 no.8:33-38 Ag '63.

(MIRA 16:9)

1. Gruzinskiy politekhnicheskii institut imeni V.I.Lenina. Predstavlena kafedroy elektricheskikh stantsiy, setey i sistem.  
(Electric networks)



TRIFILAKSHI, L. I.

"The Treatment of Certain Dermatoses with Mineral Waters."

Vestnik venerologii i dermatologii (Bulletin of Venerology Dermatology),  
No 1, January-February, 1954 (Moscow), Moscow.

8(0)

SOV/112-59-2-2777

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2, p 72 (USSR)

AUTHOR: Tkeshelashvili, G. K.

TITLE: Computing the Stream Distribution by Successive Approximation Method  
(K raschetu potokoraspredeleniya metodom posledovatel'nykh priblizheniy)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Energetika, 1958, Nr 1, pp 25-29

ABSTRACT: A modification of the successive approximation method is presented suitable for determining the stream distribution in a complicated closed circuit neglecting losses. To reduce the number of corrections and to quicken convergence of the problem solution, a set of equations is considered that ties the numerical values of corrections in various meshes. In a practical application of the method, the calculations can be restricted to the third correction. A numerical example is offered.

A.A.K.

Card 1/1

ACC NR: A77008868

SOURCE CODE: UR/0105/66/000/008/0095/0095

AUTHOR: Abelishvili, L. G.; Al'tgauzen, A. P.; Baychor, M. Yu.; Gabashvili, N. V.; Dididze, M. S.; Yefromovich, Yu. Ye.; Kotiya, A. K.; Kupradze, G. D.; Kurdiani, I. S.; Notushil, A. V.; Nikol'skiy, L. Ye.; Razmadze, Sh. M.; Svenchanskiy, A. D.; Smelyanskiy, M. Ya.; Tkashelashvili, G. K.

ORG: none

TITLE: Professor Grigoriy Artemyevich Sisoyan (on his 70th birthday)

SOURCE: Elektrichestvo, no. 8, 1966, 95

TOPIC TAGS: electric engineering personnel, electric furnace, academic personnel

SUB CODE: 09

ABSTRACT: G. A. Sisoyan graduated from the Moscow Power Engineering Institute in 1931. In 1932 he went to work at the Georgian Polytechnical Institute in the theoretical and general electrical engineering department. Sisoyan has worked and published many works in the area of electric furnaces. He has also worked in the area of investigation of electric spark action. He has published over 50 scientific works. He has also been active in university level teaching. Orig. art. has: 1 figure. JPRS: 38,330

UDC: 621.36

Card 1/1

TKESHELASHVILI, G.K., kand. tekhn. nauk

Calculation of current distribution by means of consecutive approximations. Izv. vys. ucheb. zav.; energ. no. 1:25-29 Ja'58.  
(MIRA 11:7)

1. Gruzinskiy ordena Trudovogo Krasnogo Znameni politekhnicheskii institut im. S.M.Kirova.  
(Electric networks)

COMMON ELEMENTS																										COMMON RARE EARTH ELEMENTS																									
COMMON ELEMENTS																										COMMON RARE EARTH ELEMENTS																									
<p>TKESHELASHVILI, T.S.</p> <p>Ca</p> <p>17</p> <p>Notes on some Caucasian plants. I.S. Tkeshelashvili. <i>Farmatsiya</i> 1940, No. 2/3, 21-4. — Gum tragacanth can be obtained from <i>Astragalus caucasicus</i> Pall, a Caucasian shrub. English ivy (<i>Hedera helix</i>) is comparatively rich in vitamin C and while its berries are poisonous a coffee substitute made from them is very wholesome and has a mild laxative effect.</p> <p>Julian P. Smith</p> <p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
<p>COMMON ELEMENTS</p> <p>COMMON RARE EARTH ELEMENTS</p>																																																			

TKESHELASHVILI, L. K.

TKESHELASHVILI, L. K. -- "The Quantitative Diffusion and Rate of Restoration of Phosphoryl Choline and Phosphoryl Ethanolamine in the Animal Organism." Georgian State Publishing House for Medical Literature. Tbilisi State Medical Inst. Tbilisi, 1955. (Dissertation for the Degree of Candidate of Medical Sciences)

SO: Knizhnaya letopis', No. 4, Moscow, 1956

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755930003-8

TOP SECRET AC/11/11

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755930003-8"

TKESHELASHVILI, L. K.

"Quantitative Distribution of Phosphorylcholine and Phosphorylethanolamine in the Animal Organism," by L. K. Tkeshelashvili, Academy of Sciences Georgian SSR, Institute of Physiology imeni I. S. Beritashvili, Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Tbilisi, Vol 17, No 8, 56, pp 711-717

The author describes the methods used and results obtained in experiments conducted to determine the quantitative distribution of phosphoric esters of choline and ethanolamine in the cerebrum and internal organs of the animal organism. The experiments which were carried out on rats, rabbits, and dogs established that phosphorylcholine and phosphorylethanolamine were present in the animal organism in considerable quantities, with phosphorylethanolamine predominating. The quantity of phosphorylcholine in the brain and internal organs of the animals varied from 2.2 to 14.35 milligrams in 100 grams of fresh tissue. Largest quantities of it were found in the liver (rats and rabbits); lesser quantities were found in the heart and kidneys. It was equally distributed in all parts of the brain of the dog, with the exception of the cerebellum, where phosphorylcholine was present in smaller quantities. Phosphorylethanolamine was found in considerable quantities in the spleen of rats and rabbits, and in the grey matter of the cerebral hemispheres of dogs in quantities varying from 14 to 40 milligrams in 100 grams of fresh tissue.

Sum 1258



EXCERPTA MEDICA Sec 11 Vol 12/4 O.R.L.

Apr 59

908. SINUS THROMBOSIS IN 33 YEARS (1921-1953) EXPERIENCE OF A CLINIC (Russian text) - Tkeshelashvili L. K. - SBORN. TRUD. TBIL. MED. INST. 1957, 1 (173-174)

3,462 case histories of patients suffering from inflammations of the middle ear are analysed. Sinus thrombosis constitutes the most common intracranial complication. It occurs 2.5 times more frequently in cases of chronic otitis than in cases of acute otitis. The administration of sulphonamides and antibiotics has brought about a lowering of the number of cases of sinus thrombosis but this does not exclude the possible need for surgical treatment. References 40. (S)

*Inst. Physiology in Beritashvili*

USSR/Human and Animal Physiology. (Normal and Pathological).  
Metabolism. Metabolism of Lipids. 1

Abs Jour: Ref Zhur-Biol., No 17, 1958, 79275.

Author : Tkeshelashvili, L.K.

Inst :

Title : Rate of Renewal of Phosphorylcholine and Phosphoryl-  
ethanolamine in the Animal Organism.

Orig Pub: Soobshch. AN GruzSSR, 1957, 18, No 4, 413-419.

Abstract: The rate of renewal of phosphorylcholine (I) and  
phosphoryl-ethanolamine (II) was studied in the  
brain, liver, spleen, kidneys, heart and skeletal  
muscles of rats and rabbits, and in various sections  
of the brain (grey and white matter of the cerebral  
hemispheres, the cerebellum and myelencephalon) of  
dogs to which  $\text{Na}_2\text{HP}^{32}\text{O}_4$  was introduced subcutaneously

Card : 1/2

7

USSR/Human and Animal Physiology (Normal and Pathological),  
Metabolism. Metabolism of Lipids. 7

Abs Jour: Ref Zhur-Biol., No 17, 1958, 79275.

or suboccipitally. It was shown that the I and II are renewed in animal organism at a rapid rate, but differently in different organs. Relatively the most specific activity ( $p^{32}$  in I and II) of  $p^{32}$  in inorganic phosphate was found in the brain and kidneys; the least, in the skeletal muscles. From investigations of sections of the brain, the greatest rate of turnover was noted in the white matter of the brain.

Card : 2/2

KOMETIANI, P. A., TKESHETASHVILI, L. K., and OVSYANKO, T. A.

"Applications of Phosphorous Esters of Choline, Ethanolamine and Serine to Phospholipides Synthesis in Brain,"

paper to be presented at 2nd UN Intl.' Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sept 58.

TKESHELASHVILI, L. M., Cand Med Sci -- (diss) ■ "Treatment of diaphysial fractures of both bones of the forearm by intra-osseous fixation." Tbilisi, 1958. 25 pp (Tbilisi <sup>t</sup>State Med Inst), 200 copies (KL, 15-58, ~~114~~ 119)

-86-

ITKESHELASHVILI, L.K.

21(s); 17(0)  
 PHASE I BOOK EXPLOITATION 507/2008  
 International Conference on the Peaceful Uses of Atomic Energy, 24, Geneva, 1953  
 Drukly sovetskikh uchebnykh; radiobiologiya i radioionnaya medicina  
 (Reports of Soviet Scientists; Radiobiology and Radiation Medicine)  
 Moscow, Izd-vo Glav. upr. po ispol. novykh atomnykh energii Pri  
 Sovetskikh Ministerstve SSSE, 1955. 429 p. 5,000 copies printed. (Series:  
 Sovetskaya Mezhmudovaya konferentsiya po mirovomu ispol. irovnykh atomnykh energii.  
 Trudy, tom 5)

General Ed.: A.V. Lebedevskiy, Corresponding Member, USSR Academy of Medical  
 Sciences; Ed.: L.S. Shirkova; Tech. Ed.: Ye.I. Mazal.

PURPOSE: This book is intended for physicians, scientists, and engineers  
 as well as for professors and students at those where radiobiology and  
 radiation medicine are taught.

CONTENTS: This is Volume 5 of a 6-volume set of reports delivered by Soviet  
 scientists at the Second International Conference on the Peaceful Uses of  
 Atomic Energy, held on September 1-13, 1955, in Geneva. Volume 5 contains  
 34 reports edited by Candidates of Medical Sciences S.V. Levinskiy and V.V.  
 Sedov. The reports cover problems of the biological effects of ionizing  
 radiation, future consequences of radiation in small doses, genetic effects  
 of radiation, treatment of radiation sickness, uses of radioactive isotopes  
 in medical and biological research, uses of atomic energy for diagnostic  
 and therapeutic purposes, soil absorption of uranium fission products,  
 their intake by plants, and their storage in plants and foodstuffs.  
 References accompany each report.

Reports of Soviet Scientists (Cont.)	507/2008
Belashov, I.M., M.I. Shal'nov, and Yu.M. Shubakhanov. Some Results of Labeling With Tritium in Biological Studies (Report No. 2070)	212
Blazyn, J.A. Special Features of Albumin Synthesis in the Plant and Animal Cell (Report No. 2284)	227
Belashov, I.M. Control Mechanism of the Thyroid Gland Functions by the Cervical Cortex (Report No. 2202)	238
Bell, J.A. Effect of Various Factors on the Biosynthesis of Thyroid Pro- teins by the Thyroid Gland (Report No. 2073)	251
Isomitskiy, P.A., L.K. Tkeshelashvili, and I.Ya. Oraynikov. Using Phosphoric Esters of Choline, Lecithin, and Lecithin in Phospholipid Synthesis in the Brain (Report No. 2310)	263
Perdona, D.L. Using $\alpha$ and $\beta$ to Study Metabolism in Muscles (Report No. 2207)	272
Pedova, I.L. Relative Characteristic Fate of the Three Phenothiazine Compounds: 1/ 2,5. Minoxidil (chlorpromazine), 2,5. Promazine, and 2,5. Chlorpromazine (chlorpromazine) in the Organism (Report No. 2076)	281
Enderson, A.V. Using Radioactive Isotopes in the Clinic for Diagnostic and Therapeutic Purposes (Report No. 2056)	296
Shamov, L.M., K.M. Baduyev, and S.P. Bekhtereva. Isotopic Radiobiology and Microspectrophotometry for the Localization of Brain Tumors (Report No. 2059)	307
Sebelova, E.A., and O.M. Frank. Studying the Fast Translocation of Substances in the Organism by Means of Gamma Emitting Isotopes (Report No. 2081)	313
Tkeshelashvili, L.K., M.A. Tsamurava, Z.O. Parshina, V.M. Vashkov, V.O. Krushcheyev, D.A. Smirnov, and A.G. Gerasimov. O.L. Chikhar, A.L. Duplitskiy, and T.S. Sadova. Methods of Using Ionizing Radiation in the Production of Bacterial Preparations (Report No. 2071)	329
Ushakovskiy, L.M., L.M. Bokolova, and G.N. Tsalkachava. Sorption of Microquantities of Strontium and Cesium in Soils (Report No. 2310)	346

Card 6/7

KOMETIANI, P.A.; TKESHELASHVILI, L.K.

Conversions of phosphoric esters of choline, ethanolamine, and  
serine in the brain. Ukr.biokhim.zhur. 31 no.6:913-936 '59.

(MIRA 13:5)

(CHOLINE)

(ETHANOL)

(SERINE)

TKESHELASHVILI, L.K. (Tbilisi)

Changes in the mucous membrane of the pharynx during the  
menstrual cycle. Zhur. ush., nos. i gorl. bol. 23 no.4:  
63-65 J1-Ag'63. (MIRA 16:10)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - prof. S.N.  
Khechinashvili) Tbilisskogo instituta usovershenstvovaniya  
vrachey i iz Nauchno-issledovatel'skogo instituta fiziologii  
i patologii zhenshchiny (zav. - prof. I.F.Zhordania [deceased])  
Ministerstva zdravookhraneniya Gruzinskoy SSR.  
(MENSTRUATION) (PHARYNX)



KIPSHIDZE, N. N.; CHUMBURIDZE, T. I.; TKESHELASHVILI, L.K.; TWIDDIANI, D.D.;  
TORDIYA, M. V.; DUMBADZE, Z. G.; SALUKVADZE, N. S.; DIDERASHVILI, A. A.;  
GAVAKHISHVILI, N. N.

Studies on Cardiovascular System, some Biochemical, Hematologic and  
Haemostatic Blood Indications in Old Age. Clinical Cardiology

Gerontology, 6th International Congress, Copenhagen, Denmark  
11-16 August 1963

TKESHELASHVILI, L.K.; KOMETIANI, P.A.

Studying biochemical transformations of phosphoryl serine in the  
brain. Trudy Inst. fiziol. AN Gruz. SSR 12:163-173 '61.

(BRAIN) (SERINE)

(MIRA 15:2)

TKESHELASHVILI, L.M.; SIMONISHVILI, A.Sh.

Internal fixation in fractures during childhood. Soob. AN  
Gruz. SSR 25 no. 3:357-362 S '60. (MIRA 14:1)

1. Tbilisskiy gosudarstvennyy institut usovershenstvovaniya  
vrachey. Predstavleno akademikom K.D. Eristavi.  
(INTERNAL FIXATION IN FRACTURES)

TKESHELASHVILI, L.M.

Intraosseous fixation in tubular bone fractures with a pin  
made from a cow's horn. Trudy Tbil. GIDUV 6:397-405 '62.

(MIRA 16:2)

(INTERNAL FIXATION IN FRACTURES)